APPLICATION NO.	FILING DATE
09/549,642	04/14/00

DEPARTMENT OF COMMERCE
Patent and Trademark Office
COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

ATTORNEY DOCKET NO.
314572-101F

HM12/0329

ALLEN BLOOM PHD ESQ
DECHERT PRICE & RHOADS
PRINCETON PIKE CORPORATE CENTER
POST OFFICE BOX 5218
PRINCETON NJ 08543-5218

EXAMINER

ART UNIT	PAPER NUMBER
1642	

DATE MAILED: 03/29/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

1- File Copy

PTO-90C (Rev. 2/95)

US GPO 2000-473-000/44602

Office Action Summary

Application No.	Applicant(s)
09/549,642	De Faire et al.
Examiner	**Group Art Unit**
Brenda Brumback	1642

☐ Responsive to communication(s) filed on _____.

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) *142* is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *142* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐approved ☐disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

1. This action is responsive to the preliminary amendment filed 04/14/2000. Claims 1-141 were canceled. New claims 142 was added. Claim 142 is pending and under examination.

Sequence Disclosures

2. This application contains sequence disclosures that are encompassed by the definitions for nucleotide and/or amino acid sequences set forth in 37 CFR 1.821(a)(1) and (a)(2). However, this application fails to comply with the requirements of 37 CFR 1.821 through 1.825 for the reason(s) set forth on the attached Notice To Comply With Requirements For Patent Applications Containing Nucleotide Sequence And/Or Amino Acid Sequence Disclosures.

APPLICANT IS GIVEN THE SAME TIME PERIOD AS THAT GIVEN TO RESPOND TO THIS ACTION WITHIN WHICH TO COMPLY WITH THE SEQUENCE RULES, 37 CFR 1.821 - 1.825. Failure to comply with these requirements will result in ABANDONMENT of the application under 37 CFR 1.821(g). Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136. In no case may an applicant extend the period for response beyond the six month statutory period. Applicant is requested to return a copy of the attached Notice to Comply with the response.

Specification

3. The disclosure is objected to because of the following informality. All nucleotide and amino acid sequences embedded within the text of the disclosure must be referenced by sequence identifiers (SEQ ID NO:) (see MPEP 2422.03). Correction is required.

Claim Rejections - 35 USC § 102/103

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

a. Claim 142 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hellgren et al. (U.S. Patent 4,963,491).

The claimed invention is drawn to a method of removing dental plaque comprising contacting the dental plaque with a hydrolase mixture comprising enzymes from krill.

Hellgren et al. teach a method for therapeutic cleaning of teeth comprising contacting the teeth with enzymes isolated from krill (see the abstract and column 1, lines 25-36, especially line 31). Hellgren et al. teach that the enzyme preparation cleans by removing contaminants of biological origin (see column 1, line 15-18). Thus Hellgren et al. anticipate the claimed invention, or in the alternative one of ordinary skill in the art at the time the invention was made would have found it *prima facie* obvious to have removed dental plaque from teeth by contacting the dental plaque with hydrolase enzymes from krill based on the teachings of Hellgren et al. that enzymes isolated from krill remove contaminants of biological origin and can be used to clean teeth.

b. Claim 142 rejected under 35 U.S.C. 103(a) as being unpatentable over Karisan (EPA 0 257 003) in view of Ratcliff (U.S. Patent 4,837,009).

Karistam teaches that enzyme preparations from krill are potent digestive enzymes which degrade proteins, glycoproteins, and glycosaminoglycans, including chondroitin sulfates (see the abstract). Karistam further teaches that krill proteases are useful for cleaning purposes (see page 2, lines 10-17) and are suitable for various therapeutic treatments *in vivo* (see page 2, line 44-51). Karisan does not teach that krill enzymes clean dental plaque.

Ratcliff teaches that dental plaque is a complex extracellular matrix containing glucosaminoglycans, chondroitin sulfates, glycoproteins, and proteins. Ratcliff further teaches that degradation of these compounds retards plaque growth (see column 3, line 62, through column 4, line 1 and column 4, lines 15-22).

One of ordinary skill in the art at the time the invention was made would have found it *prima facie* pbvious to have used enzyme preparations from krill for cleaning dental plaque based on the teachings of Karistam that the enzymes degrade proteins, glycoproteins, and glycosaminoglycans and the teachings of Ratcliff that these are the components of dental plaque. One of ordinary skill in the art at the time the invention was made would have had a reasonable expectation of success based on the teachings found in Karisan of krill enzymes used in other therapeutic and cleaning applications.

Conclusion

5. No claims are allowed.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brenda Brumback whose telephone number is (703) 306-3220. If the examiner can not be reached, inquiries can be directed to Supervisory Patent Examiner Anthony Caputa whose telephone number is (703) 308-3995. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0196. Papers related to this application may be submitted to Group 1600 by facsimile transmission. Papers should be faxed to Examiner Brenda Brumback, Art Unit 1642 and should be marked "OFFICIAL" for entry into prosecution history or "DRAFT" for consideration by the examiner without entry. The Art Unit 1642 FAX telephone number is (703)-305-3014. FAX machines will be available to receive transmissions 24 hours a day. In compliance with 1096 OG 30, the filing date accorded to each OFFICIAL fax transmission will be determined by the FAX machine's stamped date found on the last page of the transmission, unless that date is a Saturday, Sunday or Federal Holiday with the District of Columbia, in which case the OFFICIAL date of receipt will be the next business day.

BB

March 23, 2001

Brenda Brumback

Brenda Brumback,
Patent Examiner

Application No.: 09/549,642

NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES

The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 C.F.R. 1.821 - 1.825 for the following reason(s):

- [X] 1. This application clearly fails to comply with the requirements of 37 C.F.R. 1.821-1.825. Applicant's attention is directed to these regulations, published at 1114 OG 29, May 15, 1990 and at 55 FR 18230, May 1, 1990.
- [X] 2. This application does not contain, as a separate part of the disclosure on paper copy, a "Sequence Listing" as required by 37 C.F.R. 1.821(c).
- [X] 3. A copy of the "Sequence Listing" in computer readable form has not been submitted as required by 37 C.F.R. 1.821(e).
- [ ] 4. A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 C.F.R. 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing."
- [ ] 5. The computer readable form that has been filed with this application has been found to be damaged and/or unreadable as indicated on the attached CRF Diskette Problem Report. A Substitute computer readable form must be submitted as required by 37 C.F.R. 1.825(d).
- [ ] 6. The paper copy of the "Sequence Listing" is not the same as the computer readable from of the "Sequence Listing" as required by 37 C.F.R. 1.821(e).
- [ ] 7. Other:

Applicant Must Provide:

- [X] An initial computer readable form (CRF) copy of the "Sequence Listing".
- [X] An initial paper copy of the "Sequence Listing", as well as an amendment directing its entry into the specification.
- [X] A statement that the content of the paper and computer readable copies are the same and, where applicable, include no new matter, as required by 37 C.F.R. 1.821(e) or 1.821(f) or 1.821(g) or 1.825(b) or 1.825(d).

For questions regarding compliance to these requirements, please contact:

For Rules Interpretation, call (703) 308-4216
For CRF Submission Help, call (703) 308-4212
PatentIn Software Program Support (SIRA)
Technical Assistance.....703-287-0200
To Purchase PatentIn Software.....703-306-2600

PLEASE RETURN A COPY OF THIS NOTICE WITH YOUR RESPONSE